



KOLON KONY GREEN TURF

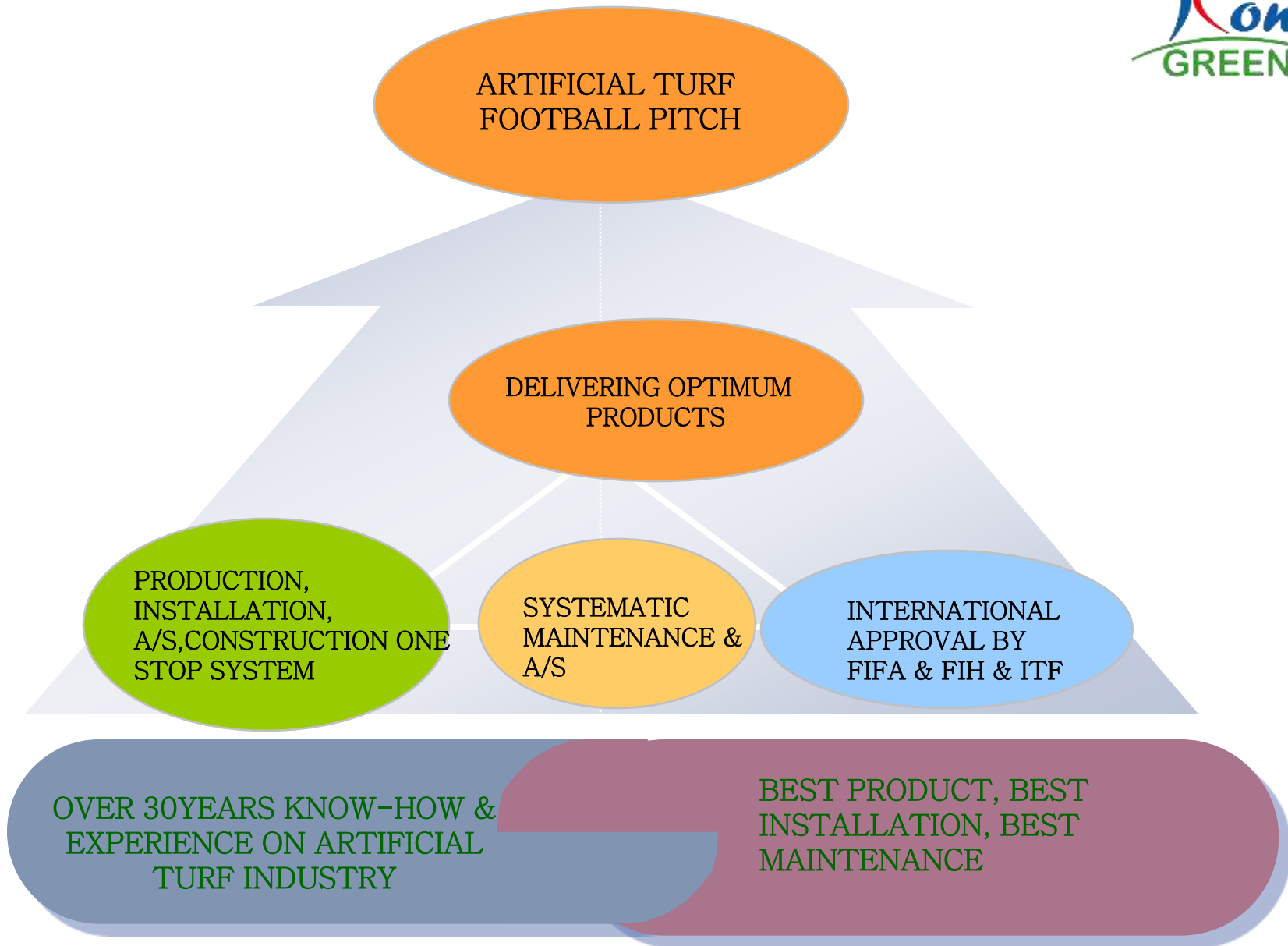
FEEL THE GRASS

PLAY ON KONY GREEN

JUST HAVE IT !!



 **KOLON GLOTECH, INC.**





COMPANY INTRODUCTION



COMPANY : KOLON GLOTECH, INC.
PRESIDENT : DONG MOON, PARK
BUSINESS RANGE : ARTIFICIAL TURF,
SPORTS FACILITY, CAR SEAT
FABRIC & COVERING, PP FIBER,
FABRICS FOR TOYS & SHOE,
SILVER YARN RELATED ITEM
ETC

CAPITAL : U\$85MILION
ANUAL SALES : U\$720MILION

**KONY
GREEN**

ADDRESS : 8F KOLON TOWER, 1-23 BYULYANG-DONG,
KWACHEO-CITY, KYUNGGI-DO, KOREA

ESTABLISHED : AUGUST, 1965

EMPLOYEE : 1,350 (2008)

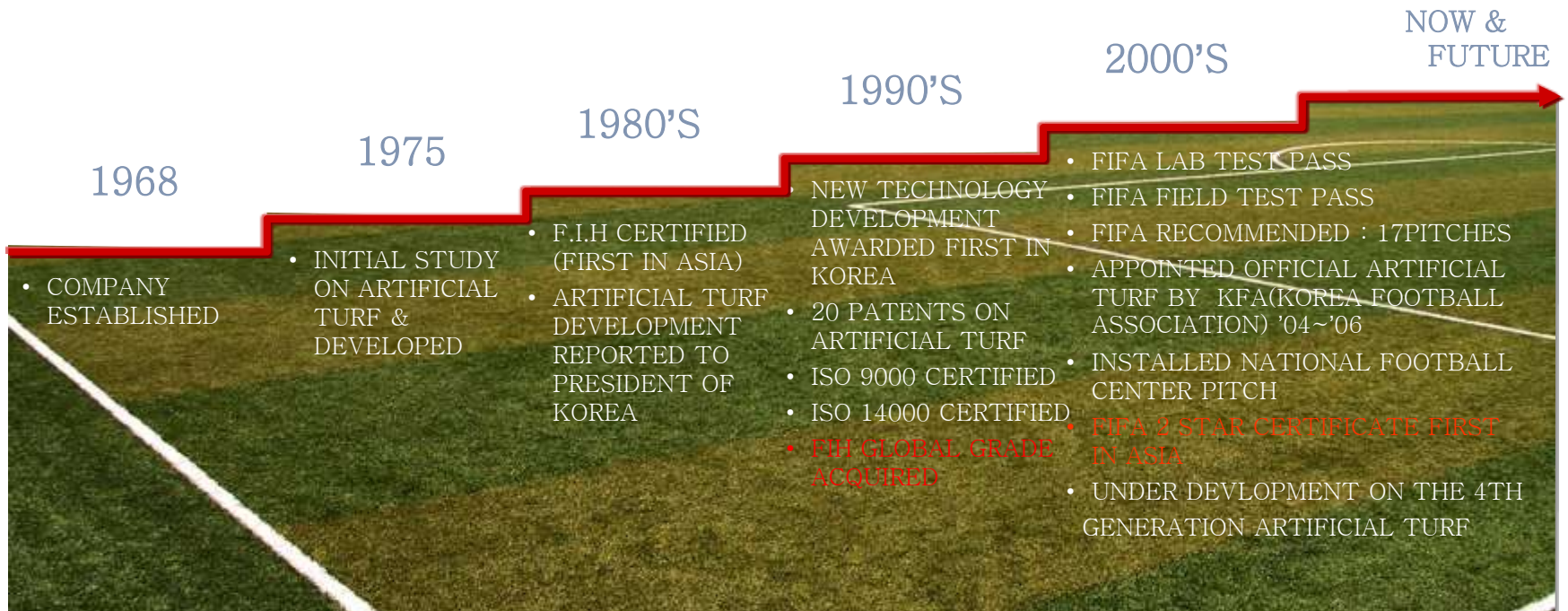
OFFICE & FACTORY : HEADQUATER(KWACHEON), R&D
CENTER(GUMI & YONGIN), FACTORY

(GUMI, DAEGU, KIMCHEON, PYUNGTAEK, ULSAN

• SEOUL, BEIJING, QINGDAO, SHANGHAI, USA, MEXICO)



HISTORY ON ARTIFICIAL TURF DEVELOPMENT



KONY GREEN



○ BODY DAMAGE

NEW DEVELOPMENT ON SPECIAL YARN & INFILLING, MINIMISED BURING & HARMNESS

○ PRODUCT

BEING USED LSR SPECIAL YARN, MAXIMUM PLAYABILITY AVAILABLE

○ PLAYABILITY

USER-FRIENDLY PRODUCT DEVELOPMENT PROVIDES ITS BEST FUNCTIONS

○ DURABILITY

MORE THAN 8 YEARS CAN BE USED UPON ITS USAGE IN GOOD CONDITIONS

○ PERMEABILITY DUE TO ITS SPECIALLY DESIGNED, IT CAN BE USED IN THE RAIN



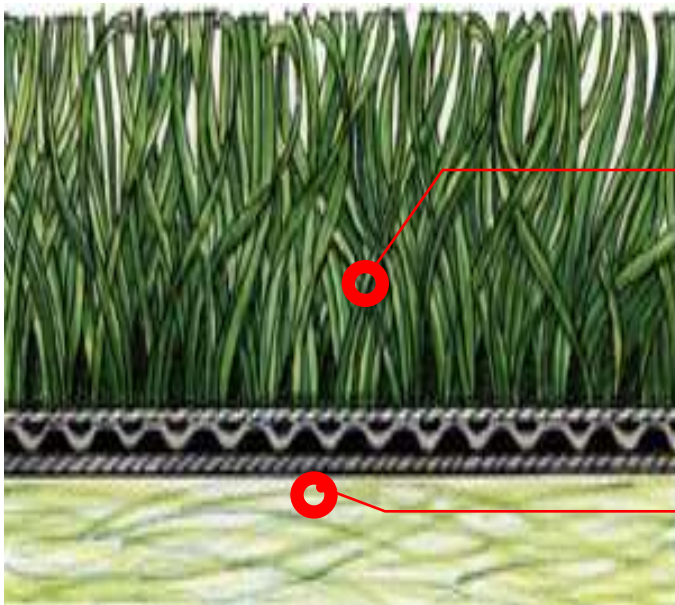
Artificial Turf Composition



KONYGREEN GENERAL SYSTEM



TX5000/TX6000 SOCCER TURF



PE FIBRIL YARN + MONOFILAMENT

- ▶ combined system of Monofilament & fibrillated yarn
- ▶ minimized surface friction and maximized durability → softness & resilience
- ▶ mutual complement of fibrillated yarn and monofilament yarn

STABILIZED BACK FABRIC

- ▶ Non woven angel hair used between UV treated double layer back fabrics
- ▶ Maximized Stabilization and tuft lock (-60°C~60°C less shrinkage)
- ▶ No line wave or joint open due to Stable tensile force

Perfect mutual complement of fibrillated yarn monofilament yarn combined system brings you best playability and performance !!!

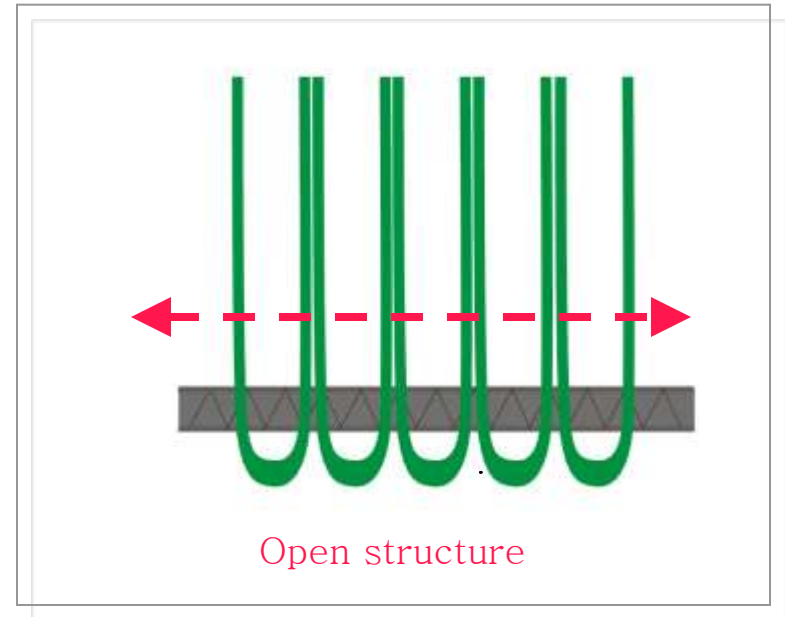
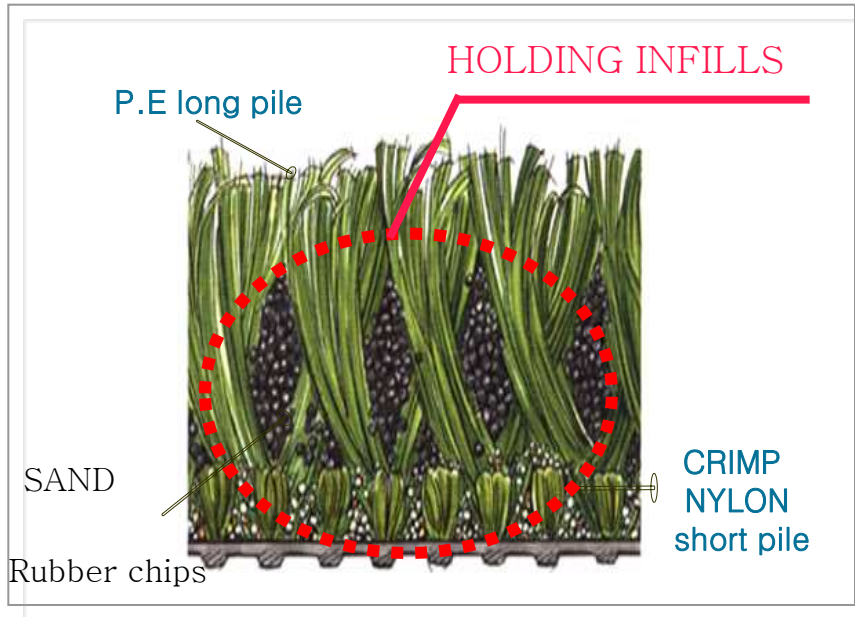


KONYGREEN GENERAL SYSTEM



KONYGREEN CONSTRUCTION(TB5000 &TB6000)

OTHERS

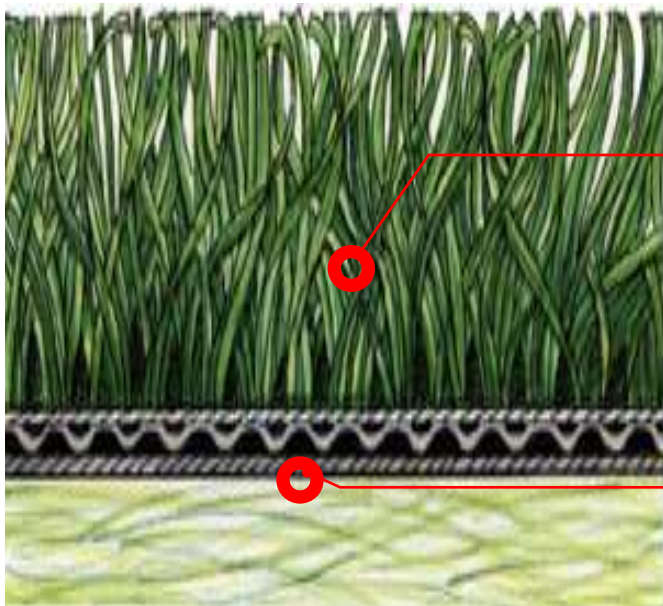


	Construction	Points
KONYGREEN	Long (P.E Fibrilated) + short (NYLON)	UNIQUE STRUCTURE/ Holding infills & extra cushions & keep piles upright
OTHERS	PE long pile	Simple structure * Piles easy to lay down

KONYGREEN GENERAL SYSTEM



TM5000 /TM6000 SOCCER TURF



EXTREMELY DURABLE MONOFILAMENT

- ▶ used durable Monofilament yarn & high density functional yarn
- ▶ 350micron & 14,500dtex yarn, extra touch and playability

STABILIZED BACK FABRIC




- ▶ Non woven angel hair used between UV treated double layer back fabrics
- ▶ Maximized Stabilization and tuft lock (-60℃~60℃ less shrinkage)
- ▶ No line wave or joint open due to Stable tensile force

Extra durability and performance for soccer and other purposed sports due to state-to-art Monofilament yarn

KONYGREEN GENERAL SYSTEM



Artificial grass yarn

	PE FIBRILLATED TYPE	PE MONOFILAMENT TYPE	NYLON MONOFILAMENT
PHOTO			
Material	POLYETHYLENE	POLYETHYLENE	NYLON
shape	FIBRILLATION	MONO FILAMENT	MONO CRIMP
특 징	<ul style="list-style-type: none"> -Fibrillated finely -Soft touch, good dovering - using LSR yarn, less body damage - no heavy metal contains -(METAL FREE) 	<ul style="list-style-type: none"> - same outlook as natural grass - maximized playability due to superb resilience and durability - no heavy metal contains -(METAL FREE) 	<ul style="list-style-type: none"> - best resilience due to CRIMPING - Best durability but harsh touch - Used under layer yarn to hold infill materials - no heavy metal contains -(METAL FREE)

KONGREEN GENERAL SYSTEM



PE MONFILAMENT YARN

- Using No harmful clean PE materials to environment and body health
- Korea testing & research institute ,etc national standard approved materials contains no harmful heavy metals.

 Eco - Testing Center <small>Oil Testing & Maintenance</small>		<small>2010 High Street (Highway 100) West Chester OH 43081 614-691-6262 ext. 201 Fax: 614-691-6261 www.fico.com </small>	
<h2>TEST REPORT</h2>			
APPLICANT : KOLM & DORR, INC.		REPORT NO. : KCD-09-0076	
SAMPLE RECEIVED DATE : 2009-09-11		TEST STARTED DATE : 2009-09-11	
REPORT ISSUED DATE : 2009-09-15		PAGE : 1 OF 2	
SAMPLE DESCRIPTION : UNK(1) PILES OF SUBMITTED CUTTING GRASS TO BE AN OFFICIAL TEST.			
ITEM : PM MONITORING TESTS			
TEST CONDUCTED : AS REQUESTED BY THE APPLICANT. FIVE (5) FIELDS PLANTED AND ATTACHED PAGES.			

DRUGS OF THE SEPT. 17
CDD-TESTING CENTER
Life value Drug
NITE 1000, 6000

EXCISE DIRECTION

Wong Tung Shing
1950-2002 (45/0)

FIT1 TESTING & RESEARCH INSTITUTE

TEST CONDUCTED		TEST RESULT	
(01) HEAVY METALS CONCENT : $\mu\text{g/g}$			
CHROMIUM (Cd)	NOT DETECTED	MS 9 1001	5 $\mu\text{g/g}$
LEAD (Pb)	NOT DETECTED	MS 9 1003	
MERCURY (Hg)	NOT DETECTED	MS 9 9718	
COBALTUM (Co)	NOT DETECTED	MS 979 3006A	
NOTE: IN ITS REFERENCE TO EACH TEST METHOD FOLLOWED BY ACETYLACETONE DERIVATION AND WASHED IN INDENT PILEY (DUPLES) PLASMA SPECTROPHOTOMETER (DPA) AND IN-VIS. SPECTROSCOPY			
(02) TOLUENE CONCENT : $\mu\text{g/g}$			
TOLUENE	NOT DETECTED	100 ppm (001) (00-0001)	50 $\mu\text{g/g}$
TOLUENE	NOT DETECTED		
ETHYLENE	NOT DETECTED		
ETHYLENE	NOT DETECTED		
ETHYLENE	NOT DETECTED		
(03) PHENOL/POLYBENZOL AROMATIC MONOSUBSTITUTED CONTENT : $\mu\text{g/g}$			
PHENOL	NOT DETECTED	100 ppm (000) (00-0000)	5 $\mu\text{g/g}$
PHENOL	NOT DETECTED		
PHENOL	NOT DETECTED		
PHENOL	NOT DETECTED		
PHENOL	NOT DETECTED		
PHENOL	NOT DETECTED		
PHENOL	NOT DETECTED		
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PHENOL	NOT DETECTED		

* TESTED FOR FILE ONLY BY THE CLIENT'S REQUEST.

* TESTS FOR PUP ONLY BY THE CLIMATE BOARD

KONYGREEN GENERAL SYSTEM



Infill materials

	SBR	EPDM	SEBS (KONYFILL)	cork
photo				
process	Recyled tire	EPDM	Round shape Extruded SEBS	cork
points	<ul style="list-style-type: none"> ○ low cost, majority usage all over the world ○ contains fine dust ○ somehow elasticity & durability not bad ○ less consumption ○ heavy metal issues 	<ul style="list-style-type: none"> ○ medidum-low cost ○ contains fine dust ○ elasticity & durability good ○ no much smell compared to SBR ○ heavy metal issues 	<ul style="list-style-type: none"> ○ strengthened elasticity & durability ○ same material as child' s toy ○ used same material as FDA approved MATERIAL => SAFTY ○ NO DUST, NO SMELL, NO HARMFUL HEAVY METAL ○ INCREASING CONSUMPTION DUE TO ENVIRONMENT FRIENDLY MATERIAL 	<ul style="list-style-type: none"> ○ FROM CORK OAK ○ SOFT TOUCH, GOOD RESILIENCE ○ NATURAL MATERIAL,NO HARMFUL TO PLAYERS ○ LESS SPECIFIC GRAVITY

* SEBS : FROM THERMOPLASTIC ELASTOMER RESIGN,

* EPDM: Ethylene propylene dien monomer

Natural grass vs Artificial grass

		Shock absorption (%)	Ball roll (M)	Ball rebound (CM)	Liner friction	Traction
Natural grass	Mixed grass	61 %	5.7 M	85 CM	148	34 Nm
	Single	62 %	6.5 M	75 CM	142	42 Nm
KOLON Kony green	Fibrillated yarn (65 mm)	63 %	7.2 M	69 CM	135	37 Nm
	Monofilament (65 mm)	63 %	6.9 M	72 CM	145	40 Nm
FIFA Standard	2 Star	60~70%	4~8 M	60~80 CM	130~210	30~45 Nm

KONYGREEN PRODUCTS are produced based on our research based on natural grass

Simulated Wearing & Durability Tested by KOLONB R&D CENTER

* KONYGREEN PE Monofilament Yarn wearing & durability

1. Test method
 - FIFA Wearing Test Method
(Lisport Test M/C)
: After 10,000 cycles, Wearing
degree check
2. Testing material
 - 1) competitors
 - 2) KOLON Konygreen
 - Monofilament & Fibrillated yarn



KONYGREEN GENERAL SYSTEM



Extremely durable KOLON KONYGREEN Monofilament yarn – You can experience while playing

Competitor' s monofilament

Before



After 10,000cycles



Twisting & curled seriously

KOLON KONYGREEN Monofilament

before



After 10,000cycles

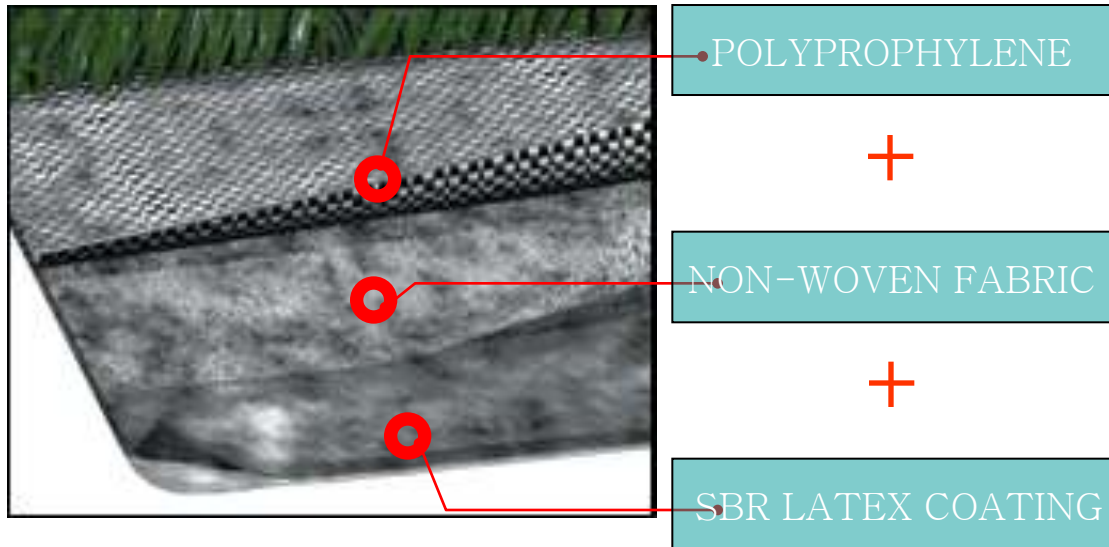


No much difference

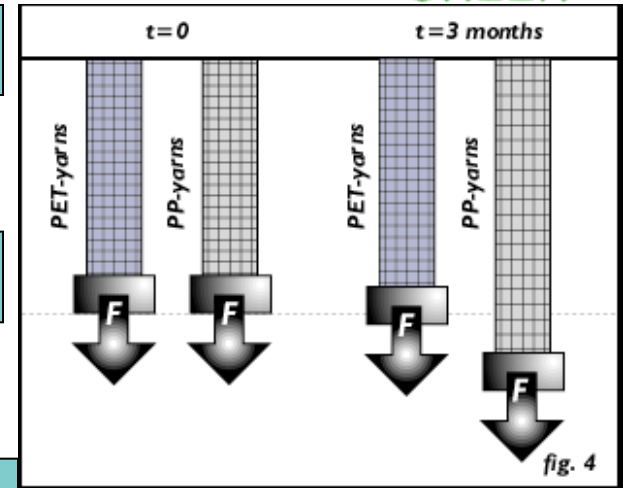
KONYGREEN GENERAL SYSTEM



Back fabric for artificial turf



△BACK FABRIC IN DETAIL



* Tensile strength test for 3 months shows lowest shrinkage rate is polyester.

1. 3 layer sandwich type enlarges turf lock and durability

2. 50% of polyester contained back fabric used



=> better durability against weather changes due to less shrinkage rate

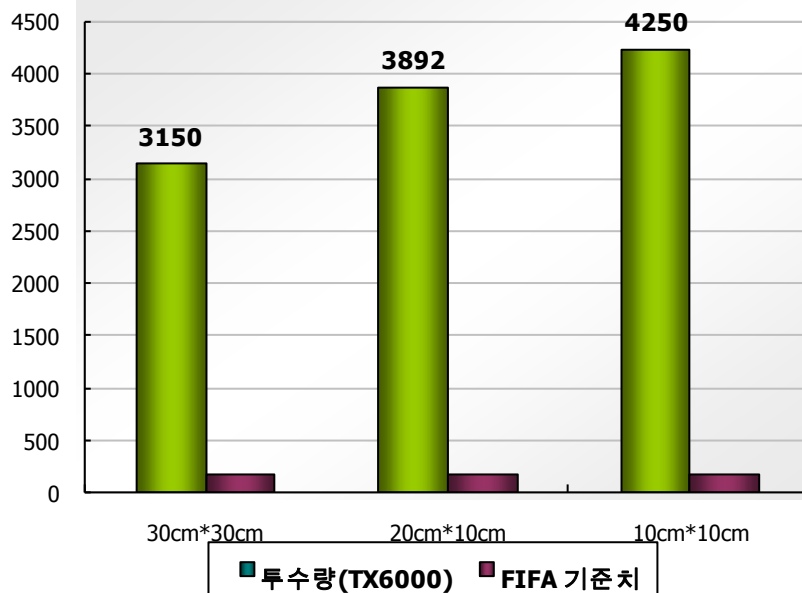
Better durability and superior stabilization



PERMEABILITY



TEST RESULT



PERMEABILITY

- TEST : FIFA QUALITY CONCEPT
- FIFA REQUIREMENT : 180mm/hr
- TX6000 RESULT : 3,892mm/hr

ABOVE RAINFALL 250mm/hour , WE DESIGNED TX6000 WITH NO EFFECT ON PLAYABILITY



BODY DAMAGE



SLIP RESISTANCE BETWEEN NATURAL TURF & ARTIFICIAL TURF

	NATURAL TURF	TB5000
SLIP RESISTANCE	0.60 ~ 1.00	0.78/0.66 (DRY/WET)
SURFACE FRICTION	25 ~ 50 Nm	32Nm

STABILITY



*BEST QUALITY PRODUCTS THANKS TO USER FRIENDLY
MATERIALS & R&D AT KOLON*

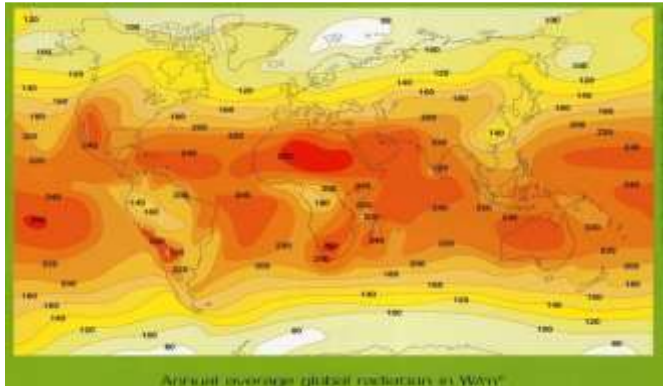




DURABILITY



UV RESISTANCE



<NASA ANNOUNCED UV CHART>

UV INDEX IS 200W/m^2 , ACCORDING TO XENON TEST, THE YARN CAN BE USED FOR AROUND 10YEARS

ABRASION RESISTANCE

ON MID-FIELD, AT AVERAGE 10km & 20,000 FOOT WALK DURABLE PRODUCT NEEDED!! ACCORDING TO THE TEST DONE BY FIFA & KOLON, IT CAN BE USED FOR AROUND 10 YEARS UNTIL DURABILITY OF THE YARN IS UPTO MORE THAN 70% BASED ON ITS ORIGINAL FUCTION

DURABILITY IS DEPENDING ON ITS USAGES, BUT IT CAN BE USED MORE THAN 8YEARS CONSIDERING WEATHER RESISTANCE & ABRASION RESISTANCE



MAINTENANCE EQUIPMENT & LABOR FORCE



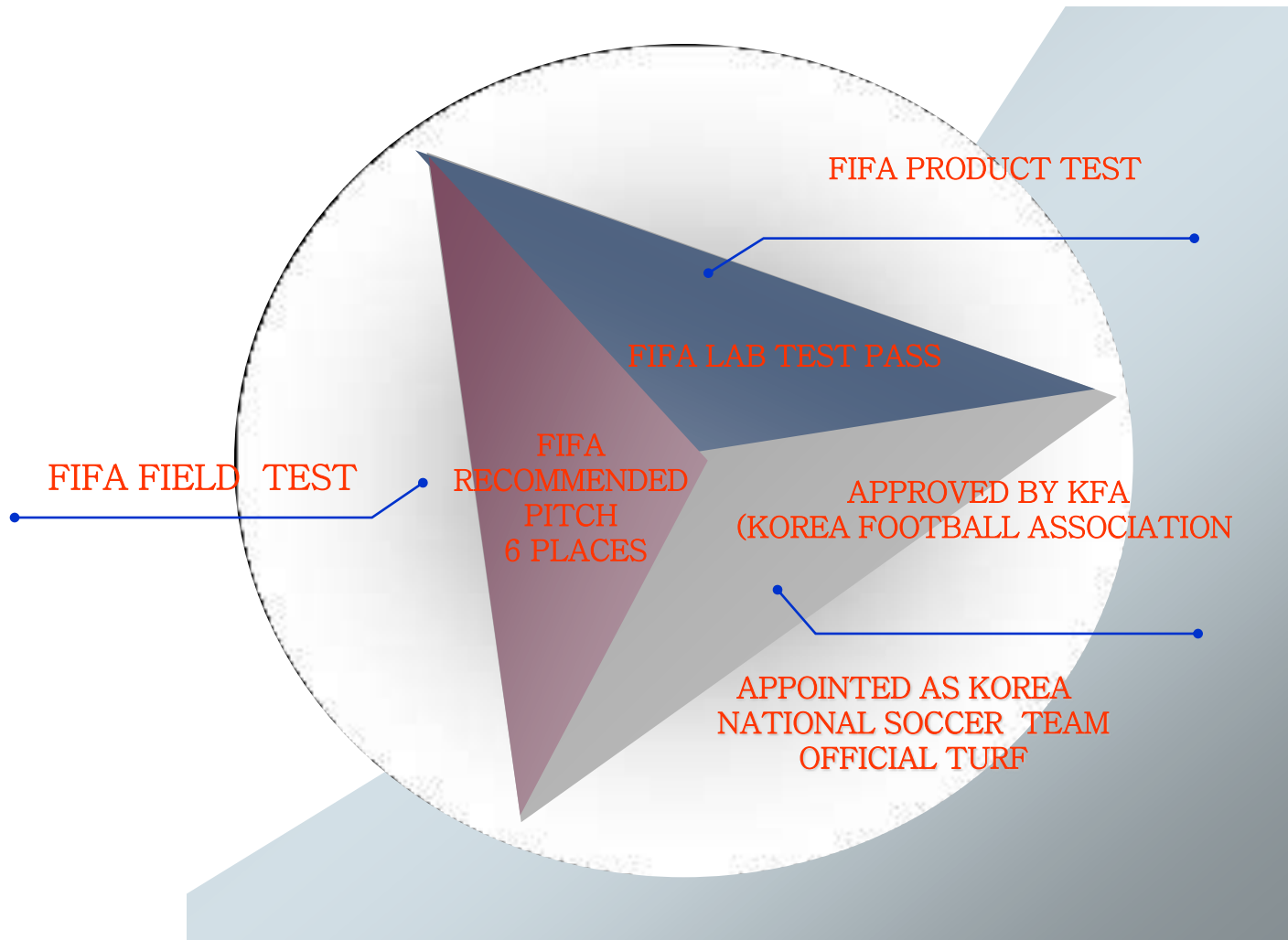
SYSTEM : OUR OWN A/S TEAM & WELL TRAINED STAFF

EQUIPMENT & MATERIALS : OWN EQUIPMENT MACHINES &

MATERIALS IN STOCK



DOMESTIC & INT'L QUALITY ASSURANCE



*WE, KONYGREEN, ALWAYS GO WITH
WORLD FOOTBALL !!!*

*FEEL THE GRASS
PLAY ON KONY GREEN
JUST HAVE IT!!!!!!*



CONGRATULATIONS! KOLON, KONY GREEN,
APPOINTED AS OFFICIAL ARTIFICIAL TURF BY
KOREA FOOTBALL ASSOCIATION



FIFA FIELD TEST



SIZE
MEASUREMENT



BALL
REBOUND



BALL ROLL



SHOCK
ABSORPTION



SURFACE
FRICTION



EVENNESS



SLOPE



BALL
BEHAVIOR



TRACTION

TEST INSTITUTE : ISA SPORTS (FIFA OFFICIAL TEST INSTITUTE)
TEST : BASED ON FIFA FIELD TEST REQUIREMENT
RECOMMENDED PITCH : SUWON WORLDCUP PRATICE FIELD, GWANGJU MUNICIPAL TRAINING FIELD
-> FIFA RECOMMEND MARK FIELD(6 FIELDS)

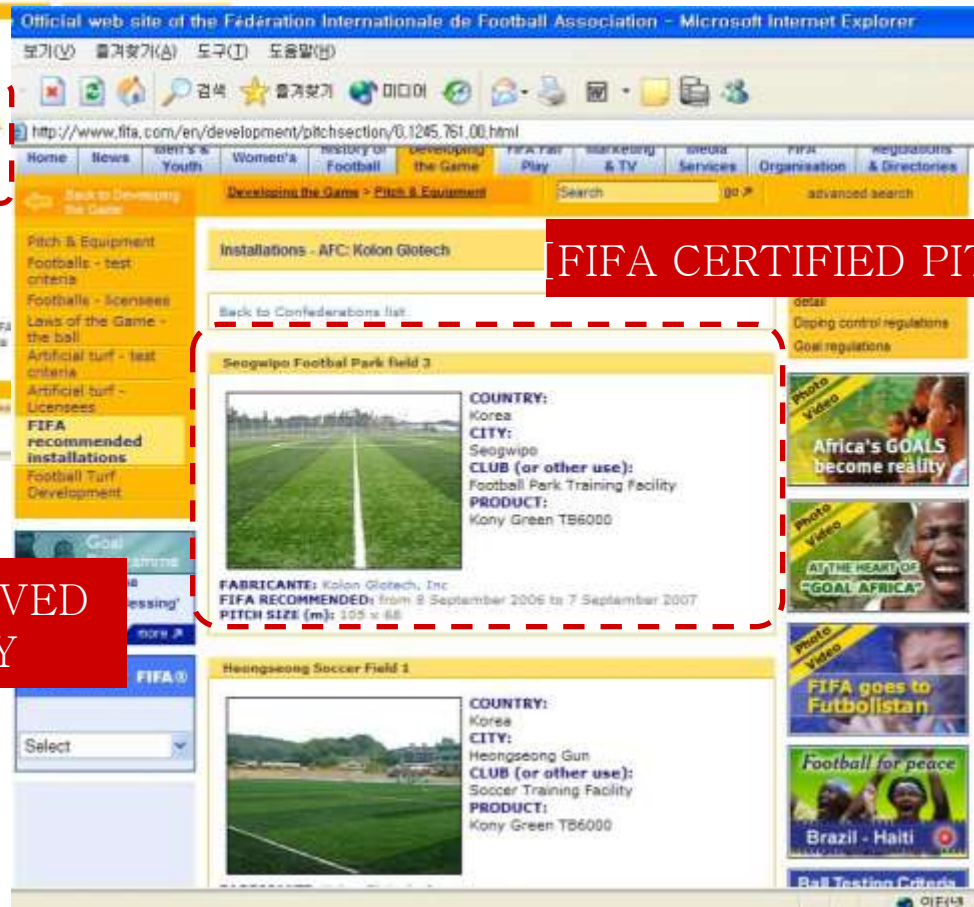
➡ FIRST FIFA 2 STAR FIELD CERTIFICATE IN ASIA



⬅ ON FIFA WEBSITE

FIFA CERTIFIED PITCHES

[FIRST FIFA 2 STAR APPROVED
FIELDS IN ASIA BY KONY





FIFA 2 STAR RECOMMEND MARK



SEOKWIPO FOOTBALL PARK
/KOREA



YOUNGDO MAERIBJI
SOCCER FIELD/KOREA



HEONGSEONG
SOCCER FIELD/KOREA



HYOCHANG STADIUM
/KOREA



FIFA RECOMMENDED PITCH LIST



FIFA CERTIFIED 18PITCH, FIRST IN AISA FOR FIFA 2STAR RECOMMENDATION!!





KOREAN WORLD-CLASS PRODUCT AWARD 2009



WE, KONYGREEN GOT KOREAN WORLD-CLASS PRODUCT AWARD 2009 !!





CERTIFICATE OF EXCELLENT QUALITY COMPETITIVENESS
ENTERPRISE 2010 FROM MINISTRY OF KNOWLEDGE
ECONOMY IN REPUBLIC OF KOREA



WE, KONYGREEN GOT EXCELLENT QUALITY COMPETITIVENESS ENTERPRISE!!



**Certificate of Excellent Quality
Competitiveness Enterprise**

KOLON GLOTECH INC.

This is to certify that the above company is selected as
Excellent Quality Competitiveness Enterprise in the year
2010, by its prominent achievements in the management
performance and customer satisfaction through efficient
quality management.

October 20, 2010


Minister

Ministry of Knowledge Economy
Republic of Korea



KONYGREEN ON MEDIA



KONY GREEN ON MEDIA



[OFFICIAL SPONSORSHIP A-BOARD]



[2006.05.24 KOREA Economy TV]





INSTALLATION PATTERN



1. MONO TONE

STABLE & COMFORTABLE
FEEL & LOOK



INSTALLATION PATTERN



2. TWO TONES

SIMILAR LOOKING AS
NATURAL TURF PITCH



LOGO & SYMBOL

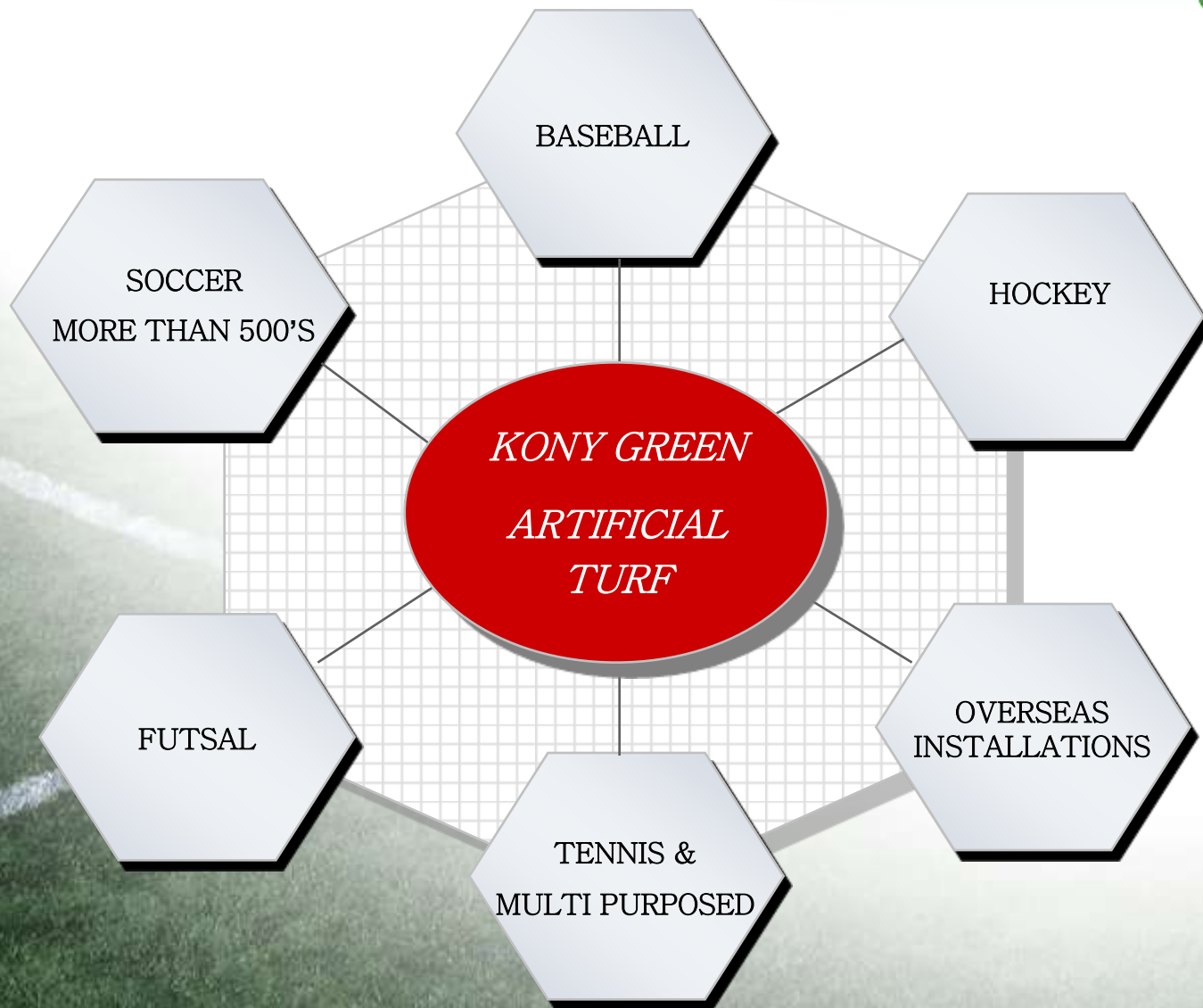


LOGO &SYMBOL

LOGO & SYMBOL COULD BE
INSERTED UPON REQUESTS



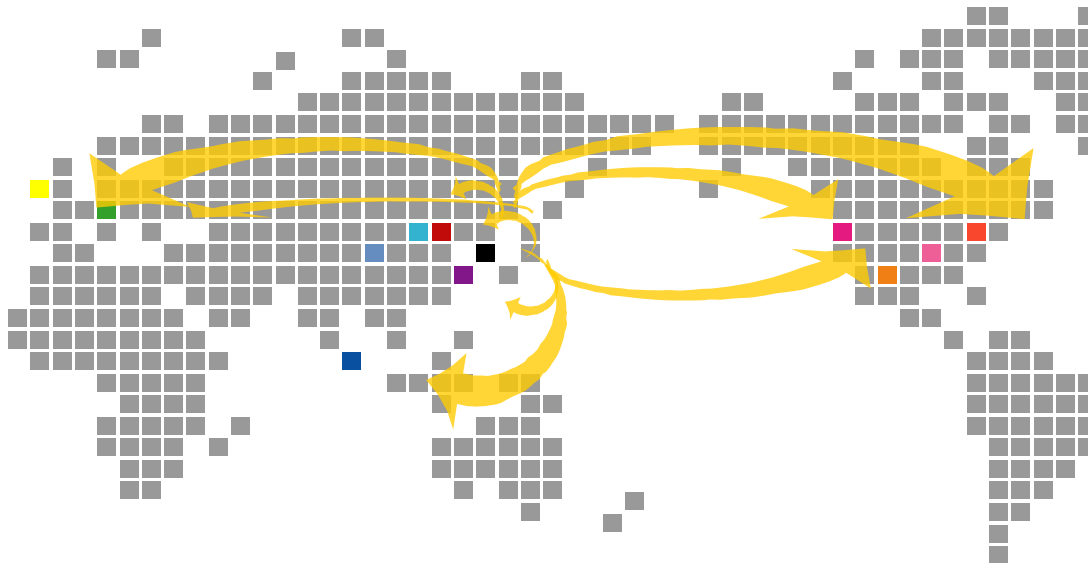
KOLON MAJOR FIELD INSTALLATIONS



FEEL THE GRASS PLAY ON KONY GREEN JUST HAVE IT!!!



OVERSEAS MAJOR INSTALLATION



Reference



UNSTINTED PRAISES ARE RECEIVED BY
CUSTOMERS ALL OVER THE WORLD



ATLANTA OLYMPIC HOCKEY FIED
CAROLINA SOCCER FIELD
MAINMERITIME UNI. FIELD



BEIJING SPORTS UNI.
QINGDAO HAINUI SOCCER SCHOOL
SHANGHAI PEOPLE'S HOCKEY PITCH
QINGDAO 2ND SPORTS SCHOOL
CHENGDU SOCCER FIELD,
THE 3RD MILITARY UNI. SOCCER ETC



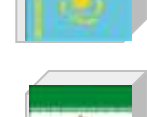
SRI LANCA NATIONAL HOCKEY STADIUM



COSMOTEN HOCKEY & SOCCER FIELD



MERILLAND UNI. FOOTBALL FIELD
KAZAKHSTAN CENTRAL STADIUM
KAZAKHSTAN NATIONAL ARMY CLUB
TABAGAN SLEDGE COURSE



FIRST LADY'S SCHOOL
FOOTBALL LAND SOCCER PITCH
ECONOMY UNI. SOCCER FIELD
ALMATY FOOTBALL SCHOOL. ETC



**KHARK ISLAND SOCCER FIELD (FIFA
1STAR), ETC**



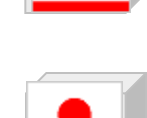
BUKIT BATOK CDNS GOLF DRIVE RANGE
HOCKEY VILLAGE



MILLENIUM MINI HOCKEY PITCH, ETC
EASTCOAST PARK MULTI, ETC
ULU PADAN TRADING FACILITY
INDONESIA ARCHIPELAGO
HOCKEY PITCH, ETC



KARA BAG SPORTS CENTER
TAPARAK MULTI PURPOSE,
FAMILY SOCCER FIEELD ,
RAMA 9 MULTI PURPOSE, ETC



KASETSART HOCKEY FIELD
MAHACHAI SOCCER FIELD
SAMUTSAKORN SOCCER FIELD



NONGLUX'S SOCCER FIELD
HOKAIDO KINDGARTEN PLAYGROUND,
TOKYO MULTI-PURPOSE, ETC



FIELD PICTURES



◀ FAMILY SOCCER FIELD,
THAILAND





FIELD PICTURES



◀ TAPARAK FUTSAL FIELD,
THAILAND



RAMA FUTSAL
THAILAND ▶





FIELD PICTURES



KAZAKHSTAN NATIONAL ARMY
CLUB SOCCER FIELD ►

◀ EUROPEAN SOCCER PLAYERS ON KONY GREEN (DUGARRI, PAPIN, ROSI, ALTOBELLI, BERTI, SCHILACHI, THOMAS, ETC)





FIELD PICTURES



◀ KAZAKHSTAN NATIONAL
STADIUM SOCCER TRAINING FIELD
(TWO TONES)

KAZAKHSTAN NATIONAL ARMY
CLUB SOCCER FIELD

MONO TONE





FIELD PICTURES



FOOTBALL LAND SOCCER FIELD,
ALMATY, KAZAKHSTAN ►

◀ ECONOMY UNIVERSITY SOCCER
FIELD, ALMATY, KAZAKHSTAN





FIELD PICTURES



◀ QINGDAO HAINIU SOCCER
SCHOOL SOCCER FIELD, CHINA

BEIJING SPORTS UNIVERSITY
SOCCER FIELD, CHINA ▶





FIELD PICTURES



SHABAHANG SOCCER FIELD ►
TEHERAN, IRAN, 2010

◀ AZAR PAD SOCCER FIELD, KHARK
ISLAND, IRAN (FIFA 1STAR)





FIELD PICTURES



◀ NONGLUX FUSAL FIELD,
THAILAND

BENIN SAMUEL SOCCER FIELD ▶
NIGERIA, 2010
(FIFA 2 STAR ON TEST)





FIELD PICTURES



◀ HAINAN PUTTING GREEN, CHINA



CDANS GOLF DRIVE RANGE,
BUKIT BATOK, SINGAPORE ▶



FIELD PICTURES



Millennia Institute



◀ MILLENNIA INSTITUTE
HOCKEY, SINGAPORE





INSTALLATION PATTERN



STABLE & COMFORTABLE
FEEL & LOOK – HOCKEY
VILLAGE, SINGAPORE



INSTALLATION PATTERN



ARCHIPELAGO HOCKEY PITCH,
JAKARTA, INDONESIA



FIELD PICTURES



◀ KONY GREEN PUTTINGGREEN
– MONGOLIA (18 HOLES)

국외 최초 정규 C.C. 18홀 | 2004년 8월 코니그린(GG2500) 포설완료 | 포설면적 6,000㎡

KONY GREEN PUTTING
GREEN ▶





FIELD PICTURES



◀ KONY GREEN TENNIS COURTS
MONO TONE



KONY GREEN TENNIS COURTS
TWO TONES ▶



FIELD PICTURES



◀ NAMHAE SPORTS PARK
BASEBALL FIELD 1

YOUNGNAM UNIVERSITY
BASEBALL FIELD ▶





FIELD PICTURES



◀ KIMJE HIGH SCHOOL HOCKEY PITCH, KOREA



JECHEON HOCKEY PITCH, KOREA
(FIH APPROVED PITCHES) ▶



FIELD PICTURES



SUWON WORLD CUP STADIUM PARK





FIELD PICTURES



OUTDOOR FLOORS –SINGAPORE



*FEEL THE GRASS
PLAYON KONYGREEN
JUST HAVE IT!!!*



*KOLON GLOTECH, INC
8F KOLON TOWER, 1-23
BYULYANG-DONG, KWACHEON
CITY, KYUNGGI-DO, KOREA
TEL: 82-2-3677-5918
FAX : 82-2-3677-5903
M.P.: 82-10-3082-7228
ATTN: MR. ANDY KOO*

*ONE & ONLY
Q'LTY ARTIFICIAL
TURF ALL OVER THE
WORLD*

T H A N K Y O U !!!